

BISON OIL & GAS II, LLC

WELD COUNTY, COLORADO (NAD 83)

SW NE SEC. 17 T8N R60W 6th P.M.

HUNT 8-60 17B-20-1

ORIGINAL WELLBORE

31 July, 2018

Plan: PROPOSAL #2





Project: WELD COUNTY, COLORADO (NAD 83)
Site: SW NE SEC. 17 T8N R60W 6th P.M.
Well: HUNT 8-60 17B-20-1
Wellbore: ORIGINAL WELLBORE
Design: PROPOSAL #2

ANNOTATIONS									
TVD	MD	Inc	Azi	+N/-S	+E/-W	Vsect	Dep	Annotation	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	SHL: 2363ft FNL & 2475ft FEL of Sec 17	
200.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	START NUDGE (2°/100ft BUR)	
795.62	800.00	12.00	269.34	-0.72	-62.60	9.29	62.60	EOB TO 12° INC	
4729.35	4821.61	12.00	269.34	-10.41	-898.68	133.42	898.74	END OF TANGENT	
5324.97	5421.61	0.00	0.00	-11.13	-961.28	142.71	961.34	EOD TO VERTICAL	
5883.70	5980.34	0.00	0.00	-11.13	-961.28	142.71	961.34	KOP (10°/100ft BUR)	
6456.70	6880.36	90.00	181.06	-583.99	-971.88	711.62	1534.30	BPI: 2343ft FSL & 1849ft FWL of Sec 17	
6456.70	14216.60	90.00	181.06	-7918.98	-1107.32	7996.01	8870.54	EPI: 300ft FSL & 1849ft FWL of Sec 20	
6456.70	14220.04	90.00	180.95	-7922.42	-1107.38	7999.43	8873.98	EOT TO 180.95° AZ	
6456.70	14316.80	90.00	180.95	-8019.16	-1108.99	8095.48	8970.74	BHL: 200ft FSL & 1849ft FWL of Sec 20	

PROPOSED LOCAL COORDINATES:

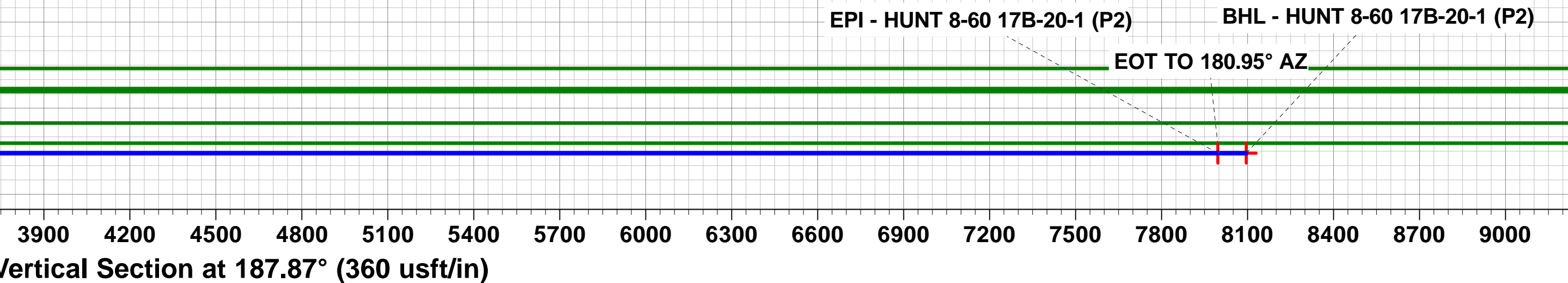
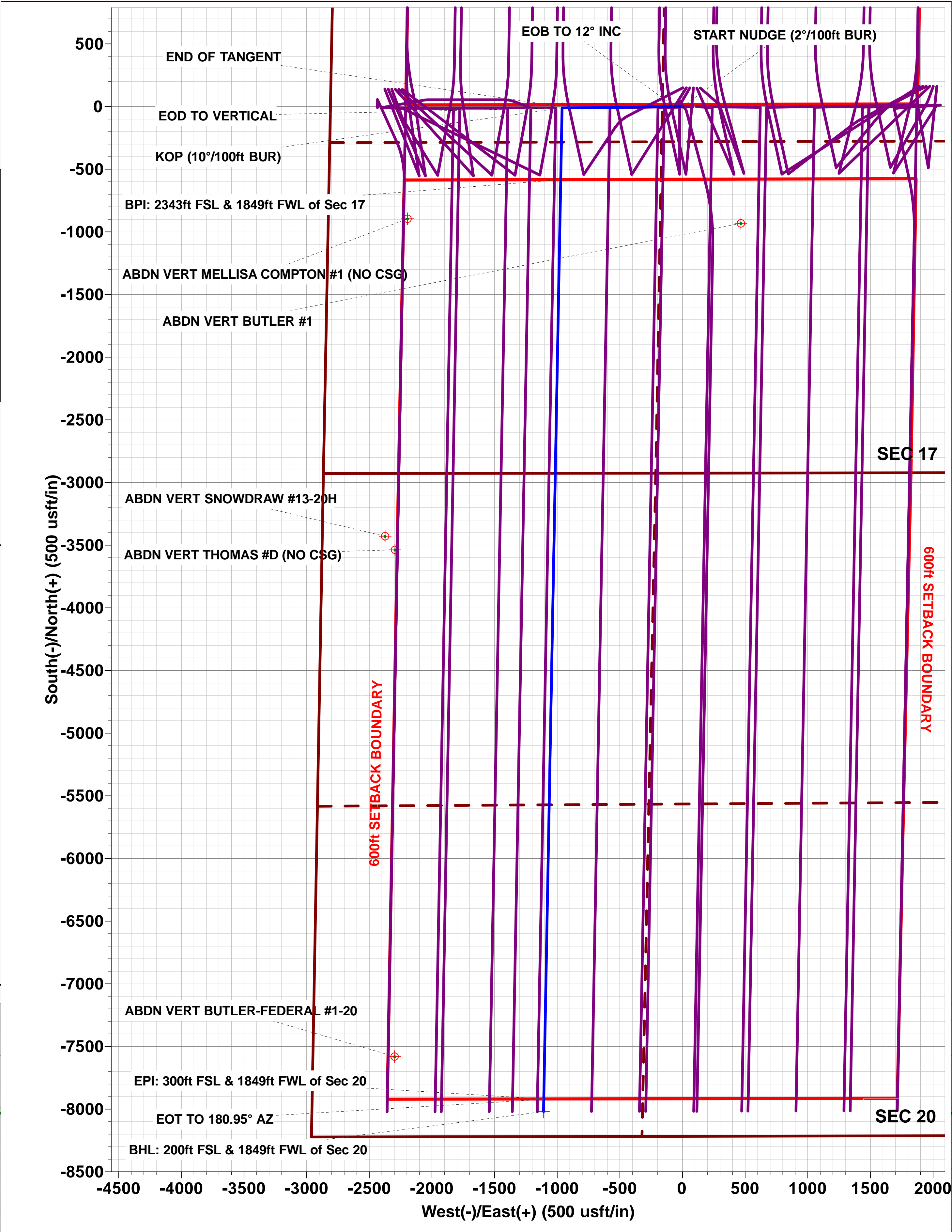
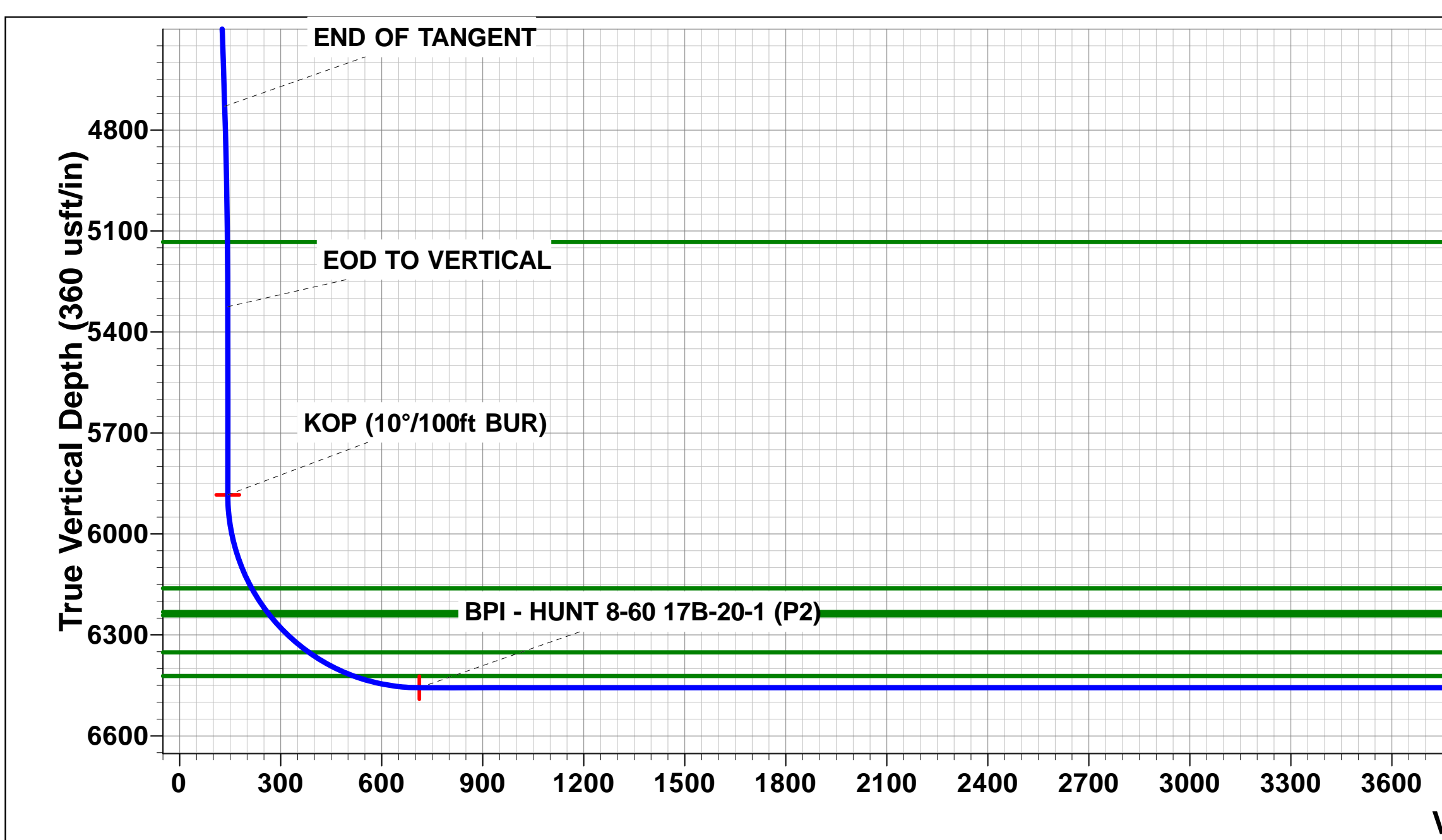
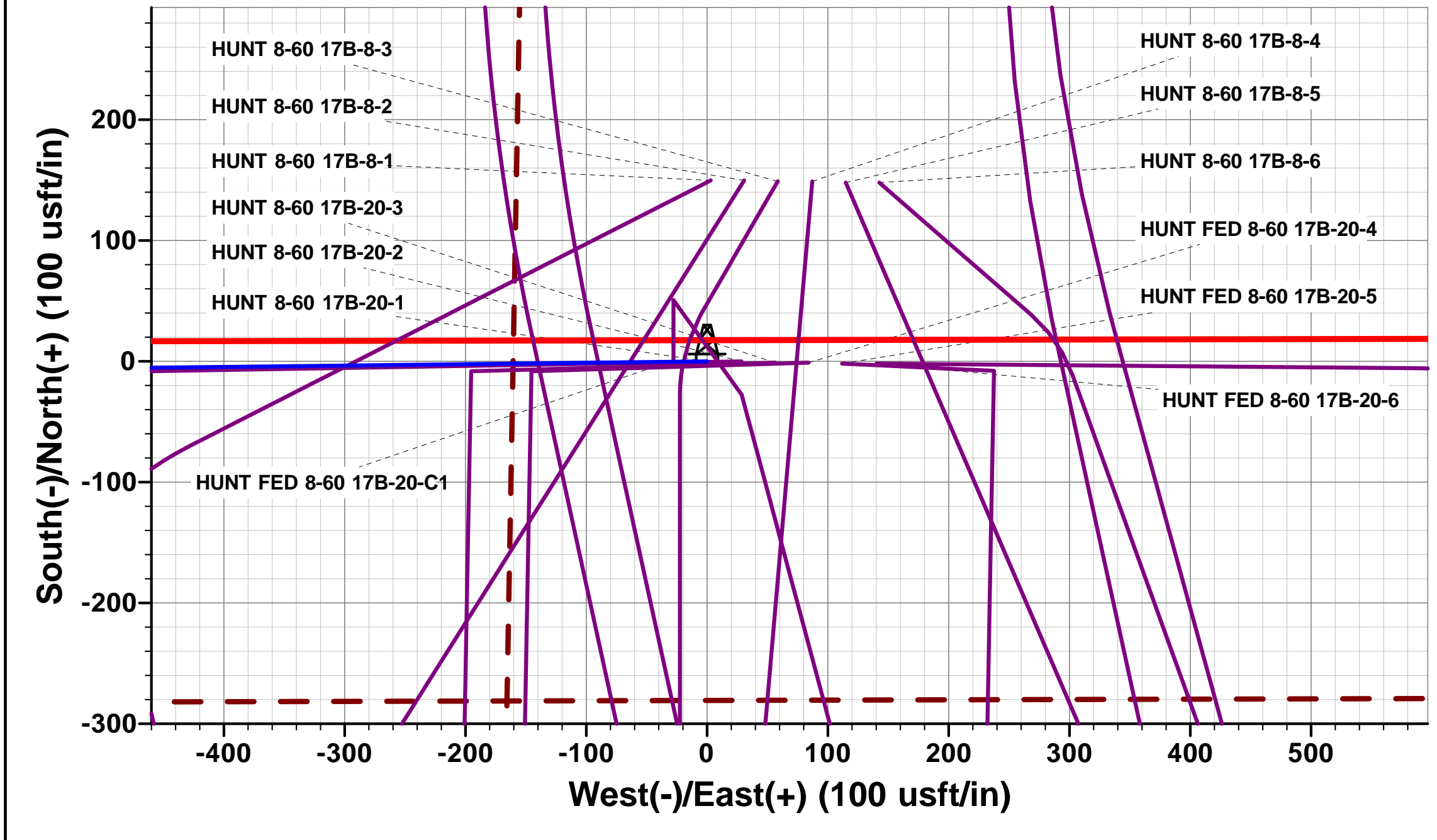
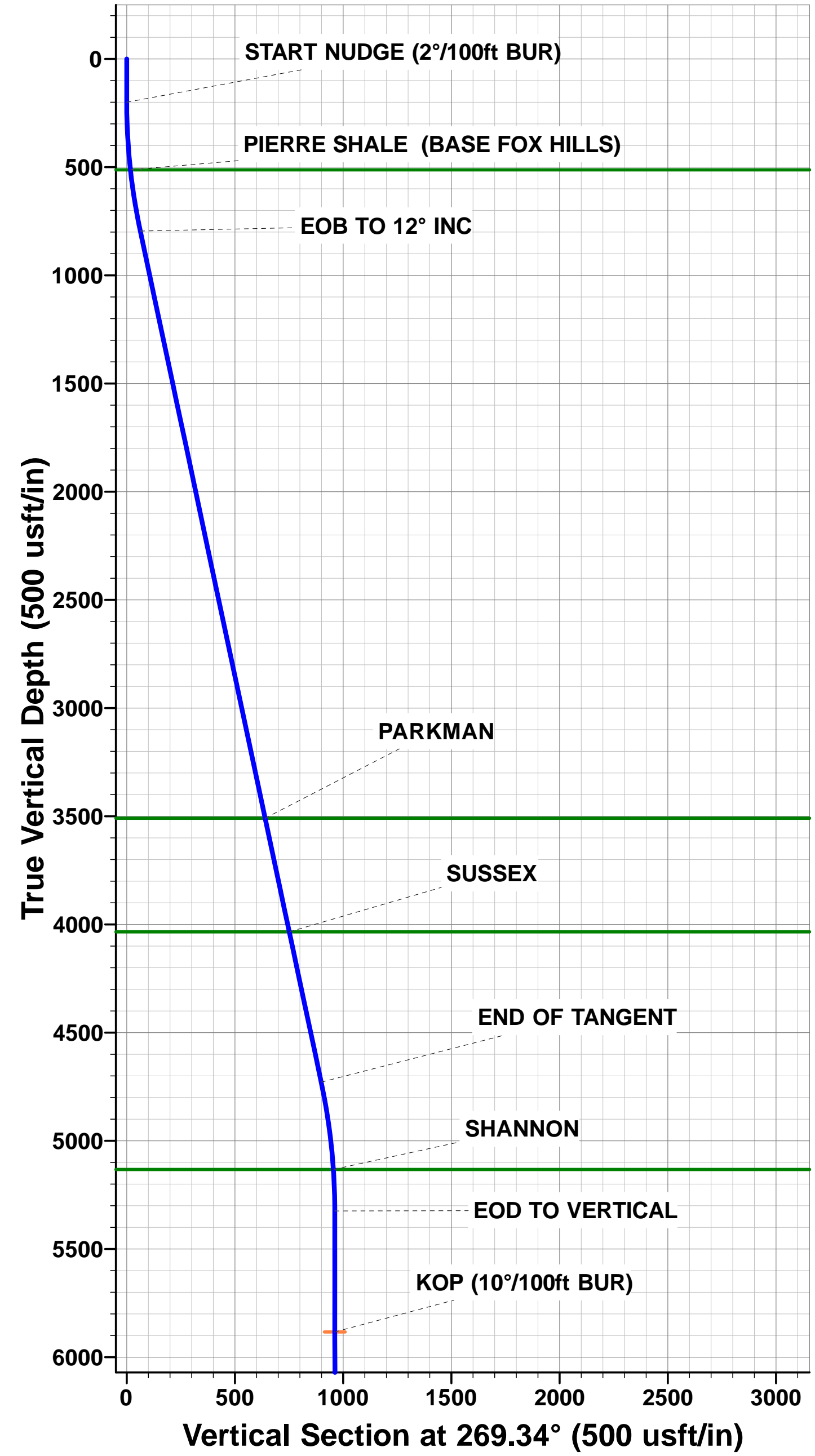
SHL: 2363ft FNL & 2475ft FEL Sec 17

BPI: 2343ft FSL & 1849ft FWL Sec 17

EPI: 300ft FSL & 1849ft FWL Sec 20

BHL: 200ft FSL & 1849ft FWL of Sec 20

WELLBORE TARGET DETAILS (LAT/LONG)					
Name	TVD	+N/-S	+E/-W	Latitude	Longitude
KOP - HUNT 8-60 17B-20-1 (P2)	5883.70	-11.13	-961.28	40.663041	-104.118118
BHL - HUNT 8-60 17B-20-1 (P2)	6456.70	-8019.16	-1108.99	40.641061	-104.118649
BPI - HUNT 8-60 17B-20-1 (P2)	6456.70	-583.99	-971.88	40.661469	-104.118156
EPI - HUNT 8-60 17B-20-1 (P2)	6456.70	-7918.98	-1107.32	40.641336	-104.118643



Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well HUNT 8-60 17B-20-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Site:	SW NE SEC. 17 T8N R60W 6th P.M.	North Reference:	True
Well:	HUNT 8-60 17B-20-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Project	WELD COUNTY, COLORADO (NAD 83)		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		Using geodetic scale factor

Site		SW NE SEC. 17 T8N R60W 6th P.M.			
Site Position:		Northing:	1,487,551.70 usft	Latitude:	40.663483
From:	Lat/Long	Easting:	3,384,321.29 usft	Longitude:	-104.114642
Position Uncertainty:	0.00 usft	Slot Radius:	1.10000 ft	Grid Convergence:	0.90 °

Well	HUNT 8-60 17B-20-1					
Well Position	+N/-S	-149.75 usft	Northing:	1,487,401.93 usft	Latitude:	40.663072
	+E/-W	-3.05 usft	Easting:	3,384,320.58 usft	Longitude:	-104.114653
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	4,937.70 usft

Wellbore	ORIGINAL WELLBORE				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	05/08/2017	7.87	67.16	52,578

Design	PROPOSAL #2			
Audit Notes:				
Version:	Phase:	PROTOTYPE	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)
	0.00	0.00	0.00	187.87

Plan Sections											
MD (usft)	Inc (°)	Azi (°)	Vertical Depth	SS (usft)	+N/-S (usft)	+E/-W (usft)	Dogleg Rate (°/100usf)	Build Rate (°/100usf)	Turn Rate (°/100usf)	TFO (°)	Target
0.00	0.00	0.00	0.00	-4,962.70	0.00	0.00	0.00	0.00	0.00	0.00	
200.00	0.00	0.00	200.00	-4,762.70	0.00	0.00	0.00	0.00	0.00	0.00	
800.00	12.00	269.34	795.62	-4,167.08	-0.72	-62.60	2.00	2.00	0.00	269.34	
4,821.61	12.00	269.34	4,729.35	-233.35	-10.41	-898.68	0.00	0.00	0.00	0.00	
5,421.61	0.00	0.00	5,324.97	362.27	-11.13	-961.28	2.00	-2.00	0.00	180.00	
5,980.34	0.00	0.00	5,883.70	921.00	-11.13	-961.28	0.00	0.00	0.00	0.00	KOP - HUNT 8-60 1
6,880.36	90.00	181.06	6,456.70	1,494.00	-583.99	-971.88	10.00	10.00	-19.88	181.06	BPI - HUNT 8-60 17
14,216.60	90.00	181.06	6,456.70	1,494.00	-7,918.98	-1,107.32	0.00	0.00	0.00	-22.85	EPI - HUNT 8-60 17
14,220.04	90.00	180.95	6,456.70	1,494.00	-7,922.42	-1,107.38	3.00	-0.12	-3.00	-92.35	
14,316.80	90.00	180.95	6,456.70	1,494.00	-8,019.16	-1,108.99	0.00	0.00	0.00	0.00	BHL - HUNT 8-60 1

Planning Report



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Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Site:	SW NE SEC. 17 T8N R60W 6th P.M.	North Reference:	True
Well:	HUNT 8-60 17B-20-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
SHL: 2363ft FNL & 2475ft FEL of Sec 17										
0.00	0.00	0.00	0.00	4,962.70	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	4,862.70	0.00	0.00	0.00	0.00	0.00	0.00
START NUDGE (2°/100ft BUR)										
200.00	0.00	0.00	200.00	4,762.70	0.00	0.00	0.00	0.00	0.00	0.00
300.00	2.00	269.34	299.98	4,662.72	-0.02	-1.75	0.26	2.00	2.00	0.00
400.00	4.00	269.34	399.84	4,562.86	-0.08	-6.98	1.04	2.00	2.00	0.00
500.00	6.00	269.34	499.45	4,463.25	-0.18	-15.69	2.33	2.00	2.00	0.00
PIERRE SHALE (BASE FOX HILLS)										
513.32	6.27	269.34	512.70	4,450.00	-0.20	-17.12	2.54	2.00	2.00	0.00
600.00	8.00	269.34	598.70	4,364.00	-0.32	-27.88	4.14	2.00	2.00	0.00
700.00	10.00	269.34	697.47	4,265.23	-0.50	-43.52	6.46	2.00	2.00	0.00
EOB TO 12° INC										
800.00	12.00	269.34	795.62	4,167.08	-0.72	-62.60	9.29	2.00	2.00	0.00
900.00	12.00	269.34	893.44	4,069.26	-0.97	-83.39	12.38	0.00	0.00	0.00
1,000.00	12.00	269.34	991.25	3,971.45	-1.21	-104.18	15.47	0.00	0.00	0.00
1,100.00	12.00	269.34	1,089.07	3,873.63	-1.45	-124.97	18.55	0.00	0.00	0.00
1,200.00	12.00	269.34	1,186.88	3,775.82	-1.69	-145.76	21.64	0.00	0.00	0.00
1,300.00	12.00	269.34	1,284.70	3,678.00	-1.93	-166.55	24.73	0.00	0.00	0.00
1,400.00	12.00	269.34	1,382.51	3,580.19	-2.17	-187.34	27.81	0.00	0.00	0.00
1,500.00	12.00	269.34	1,480.33	3,482.37	-2.41	-208.13	30.90	0.00	0.00	0.00
1,600.00	12.00	269.34	1,578.14	3,384.56	-2.65	-228.92	33.98	0.00	0.00	0.00
1,700.00	12.00	269.34	1,675.96	3,286.74	-2.89	-249.71	37.07	0.00	0.00	0.00
1,800.00	12.00	269.34	1,773.77	3,188.93	-3.13	-270.50	40.16	0.00	0.00	0.00
1,900.00	12.00	269.34	1,871.59	3,091.11	-3.37	-291.29	43.24	0.00	0.00	0.00
2,000.00	12.00	269.34	1,969.40	2,993.30	-3.61	-312.08	46.33	0.00	0.00	0.00
2,100.00	12.00	269.34	2,067.22	2,895.48	-3.85	-332.87	49.42	0.00	0.00	0.00
2,200.00	12.00	269.34	2,165.03	2,797.67	-4.09	-353.66	52.50	0.00	0.00	0.00
2,300.00	12.00	269.34	2,262.84	2,699.86	-4.34	-374.44	55.59	0.00	0.00	0.00
2,400.00	12.00	269.34	2,360.66	2,602.04	-4.58	-395.23	58.68	0.00	0.00	0.00
2,500.00	12.00	269.34	2,458.47	2,504.23	-4.82	-416.02	61.76	0.00	0.00	0.00
2,600.00	12.00	269.34	2,556.29	2,406.41	-5.06	-436.81	64.85	0.00	0.00	0.00
2,700.00	12.00	269.34	2,654.10	2,308.60	-5.30	-457.60	67.93	0.00	0.00	0.00
2,800.00	12.00	269.34	2,751.92	2,210.78	-5.54	-478.39	71.02	0.00	0.00	0.00
2,900.00	12.00	269.34	2,849.73	2,112.97	-5.78	-499.18	74.11	0.00	0.00	0.00
3,000.00	12.00	269.34	2,947.55	2,015.15	-6.02	-519.97	77.19	0.00	0.00	0.00
3,100.00	12.00	269.34	3,045.36	1,917.34	-6.26	-540.76	80.28	0.00	0.00	0.00
3,200.00	12.00	269.34	3,143.18	1,819.52	-6.50	-561.55	83.37	0.00	0.00	0.00
3,300.00	12.00	269.34	3,240.99	1,721.71	-6.74	-582.34	86.45	0.00	0.00	0.00
3,400.00	12.00	269.34	3,338.81	1,623.89	-6.98	-603.13	89.54	0.00	0.00	0.00
3,500.00	12.00	269.34	3,436.62	1,526.08	-7.22	-623.92	92.63	0.00	0.00	0.00
PARKMAN										
3,574.71	12.00	269.34	3,509.70	1,453.00	-7.40	-639.45	94.93	0.00	0.00	0.00
3,600.00	12.00	269.34	3,534.44	1,428.26	-7.46	-644.71	95.71	0.00	0.00	0.00
3,700.00	12.00	269.34	3,632.25	1,330.45	-7.71	-665.50	98.80	0.00	0.00	0.00
3,800.00	12.00	269.34	3,730.07	1,232.63	-7.95	-686.29	101.89	0.00	0.00	0.00
3,900.00	12.00	269.34	3,827.88	1,134.82	-8.19	-707.08	104.97	0.00	0.00	0.00
4,000.00	12.00	269.34	3,925.70	1,037.00	-8.43	-727.87	108.06	0.00	0.00	0.00
4,100.00	12.00	269.34	4,023.51	939.19	-8.67	-748.66	111.14	0.00	0.00	0.00
SUSSEX										
4,111.44	12.00	269.34	4,034.70	928.00	-8.70	-751.04	111.50	0.00	0.00	0.00
4,200.00	12.00	269.34	4,121.32	841.38	-8.91	-769.45	114.23	0.00	0.00	0.00
4,300.00	12.00	269.34	4,219.14	743.56	-9.15	-790.24	117.32	0.00	0.00	0.00

Planning Report



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Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,400.00	12.00	269.34	4,316.95	645.75	-9.39	-811.03	120.40	0.00	0.00	0.00
4,500.00	12.00	269.34	4,414.77	547.93	-9.63	-831.82	123.49	0.00	0.00	0.00
4,600.00	12.00	269.34	4,512.58	450.12	-9.87	-852.61	126.58	0.00	0.00	0.00
4,700.00	12.00	269.34	4,610.40	352.30	-10.11	-873.40	129.66	0.00	0.00	0.00
4,800.00	12.00	269.34	4,708.21	254.49	-10.35	-894.19	132.75	0.00	0.00	0.00
END OF TANGENT										
4,821.61	12.00	269.34	4,729.35	233.35	-10.41	-898.68	133.42	0.00	0.00	0.00
4,900.00	10.43	269.34	4,806.24	156.46	-10.58	-913.93	135.68	2.00	-2.00	0.00
5,000.00	8.43	269.34	4,904.88	57.82	-10.77	-930.31	138.11	2.00	-2.00	0.00
5,100.00	6.43	269.34	5,004.04	-41.34	-10.92	-943.25	140.03	2.00	-2.00	0.00
5,200.00	4.43	269.34	5,103.59	-140.89	-11.03	-952.71	141.44	2.00	-2.00	0.00
SHANNON										
5,229.19	3.85	269.34	5,132.70	-170.00	-11.06	-954.82	141.75	2.00	-2.00	0.00
5,300.00	2.43	269.34	5,203.40	-240.70	-11.10	-958.70	142.33	2.00	-2.00	0.00
5,400.00	0.43	269.34	5,303.36	-340.66	-11.13	-961.20	142.70	2.00	-2.00	0.00
EOD TO VERTICAL										
5,421.61	0.00	0.00	5,324.97	-362.27	-11.13	-961.28	142.71	2.00	-2.00	0.00
5,500.00	0.00	0.00	5,403.36	-440.66	-11.13	-961.28	142.71	0.00	0.00	0.00
5,600.00	0.00	0.00	5,503.36	-540.66	-11.13	-961.28	142.71	0.00	0.00	0.00
5,700.00	0.00	0.00	5,603.36	-640.66	-11.13	-961.28	142.71	0.00	0.00	0.00
5,800.00	0.00	0.00	5,703.36	-740.66	-11.13	-961.28	142.71	0.00	0.00	0.00
5,900.00	0.00	0.00	5,803.36	-840.66	-11.13	-961.28	142.71	0.00	0.00	0.00
KOP (10°/100ft BUR)										
5,980.34	0.00	0.00	5,883.70	-921.00	-11.13	-961.28	142.71	0.00	0.00	0.00
6,000.00	1.97	181.06	5,903.36	-940.66	-11.47	-961.29	143.04	10.00	10.00	0.00
6,100.00	11.97	181.06	6,002.50	-1,039.80	-23.58	-961.51	155.07	10.00	10.00	0.00
6,200.00	21.96	181.06	6,098.02	-1,135.32	-52.71	-962.05	184.01	10.00	10.00	0.00
SHARON SPRINGS SHALE										
6,270.59	29.02	181.06	6,161.70	-1,199.00	-83.07	-962.61	214.16	10.00	10.00	0.00
6,300.00	31.96	181.06	6,187.04	-1,224.34	-97.99	-962.89	228.97	10.00	10.00	0.00
NIORRARA FORMATION										
6,354.33	37.40	181.06	6,231.70	-1,269.00	-128.89	-963.46	259.66	10.00	10.00	0.00
NIORRARA A CHALK										
6,367.03	38.67	181.06	6,241.70	-1,279.00	-136.71	-963.60	267.42	10.00	10.00	0.00
6,400.00	41.96	181.06	6,266.84	-1,304.14	-158.04	-964.00	288.60	10.00	10.00	0.00
6,500.00	51.96	181.06	6,335.00	-1,372.30	-231.02	-965.35	361.09	10.00	10.00	0.00
NIORRARA B CHALK										
6,527.99	54.76	181.06	6,351.70	-1,389.00	-253.48	-965.76	383.38	10.00	10.00	0.00
6,600.00	61.96	181.06	6,389.45	-1,426.75	-314.73	-966.90	444.22	10.00	10.00	0.00
NIORRARA C CHALK										
6,679.09	69.87	181.06	6,421.70	-1,459.00	-386.87	-968.23	515.86	10.00	10.00	0.00
6,700.00	71.96	181.06	6,428.54	-1,465.84	-406.63	-968.60	535.48	10.00	10.00	0.00
6,800.00	81.96	181.06	6,451.07	-1,488.37	-503.91	-970.39	632.09	10.00	10.00	0.00
BPI: 2343ft FSL & 1849ft FWL of Sec 17										
6,880.36	90.00	181.06	6,456.70	-1,494.00	-583.99	-971.88	711.62	10.00	10.00	0.00
6,900.00	90.00	181.06	6,456.70	-1,494.00	-603.63	-972.24	731.12	0.00	0.00	0.00
7,000.00	90.00	181.06	6,456.71	-1,494.01	-703.61	-974.09	830.42	0.00	0.00	0.00
7,100.00	90.00	181.06	6,456.72	-1,494.02	-803.59	-975.94	929.71	0.00	0.00	0.00
7,200.00	90.00	181.06	6,456.72	-1,494.02	-903.58	-977.79	1,029.00	0.00	0.00	0.00
7,300.00	90.00	181.06	6,456.73	-1,494.03	-1,003.56	-979.64	1,128.30	0.00	0.00	0.00
7,400.00	90.00	181.06	6,456.74	-1,494.04	-1,103.54	-981.48	1,227.59	0.00	0.00	0.00
7,500.00	90.00	181.06	6,456.74	-1,494.04	-1,203.52	-983.33	1,326.88	0.00	0.00	0.00
7,600.00	90.00	181.06	6,456.75	-1,494.05	-1,303.51	-985.18	1,426.18	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well HUNT 8-60 17B-20-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Site:	SW NE SEC. 17 T8N R60W 6th P.M.	North Reference:	True
Well:	HUNT 8-60 17B-20-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
7,700.00	90.00	181.06	6,456.75	-1,494.05	-1,403.49	-987.03	1,525.47	0.00	0.00	0.00
7,800.00	90.00	181.06	6,456.76	-1,494.06	-1,503.47	-988.88	1,624.76	0.00	0.00	0.00
7,900.00	90.00	181.06	6,456.76	-1,494.06	-1,603.46	-990.73	1,724.06	0.00	0.00	0.00
8,000.00	90.00	181.06	6,456.77	-1,494.07	-1,703.44	-992.58	1,823.35	0.00	0.00	0.00
8,100.00	90.00	181.06	6,456.77	-1,494.07	-1,803.42	-994.42	1,922.64	0.00	0.00	0.00
8,200.00	90.00	181.06	6,456.78	-1,494.08	-1,903.40	-996.27	2,021.94	0.00	0.00	0.00
8,300.00	90.00	181.06	6,456.78	-1,494.08	-2,003.39	-998.12	2,121.23	0.00	0.00	0.00
8,400.00	90.00	181.06	6,456.79	-1,494.09	-2,103.37	-999.97	2,220.53	0.00	0.00	0.00
8,500.00	90.00	181.06	6,456.79	-1,494.09	-2,203.35	-1,001.82	2,319.82	0.00	0.00	0.00
8,600.00	90.00	181.06	6,456.80	-1,494.10	-2,303.34	-1,003.66	2,419.11	0.00	0.00	0.00
8,700.00	90.00	181.06	6,456.80	-1,494.10	-2,403.32	-1,005.51	2,518.41	0.00	0.00	0.00
8,800.00	90.00	181.06	6,456.80	-1,494.10	-2,503.30	-1,007.36	2,617.70	0.00	0.00	0.00
8,900.00	90.00	181.06	6,456.81	-1,494.11	-2,603.29	-1,009.21	2,716.99	0.00	0.00	0.00
9,000.00	90.00	181.06	6,456.81	-1,494.11	-2,703.27	-1,011.06	2,816.29	0.00	0.00	0.00
9,100.00	90.00	181.06	6,456.81	-1,494.11	-2,803.25	-1,012.90	2,915.58	0.00	0.00	0.00
9,200.00	90.00	181.06	6,456.82	-1,494.12	-2,903.23	-1,014.75	3,014.87	0.00	0.00	0.00
9,300.00	90.00	181.06	6,456.82	-1,494.12	-3,003.22	-1,016.60	3,114.17	0.00	0.00	0.00
9,400.00	90.00	181.06	6,456.82	-1,494.12	-3,103.20	-1,018.44	3,213.46	0.00	0.00	0.00
9,500.00	90.00	181.06	6,456.82	-1,494.12	-3,203.18	-1,020.29	3,312.75	0.00	0.00	0.00
9,600.00	90.00	181.06	6,456.82	-1,494.12	-3,303.17	-1,022.14	3,412.05	0.00	0.00	0.00
9,700.00	90.00	181.06	6,456.83	-1,494.13	-3,403.15	-1,023.99	3,511.34	0.00	0.00	0.00
9,800.00	90.00	181.06	6,456.83	-1,494.13	-3,503.13	-1,025.83	3,610.63	0.00	0.00	0.00
9,900.00	90.00	181.06	6,456.83	-1,494.13	-3,603.11	-1,027.68	3,709.93	0.00	0.00	0.00
10,000.00	90.00	181.06	6,456.83	-1,494.13	-3,703.10	-1,029.53	3,809.22	0.00	0.00	0.00
10,100.00	90.00	181.06	6,456.83	-1,494.13	-3,803.08	-1,031.37	3,908.51	0.00	0.00	0.00
10,200.00	90.00	181.06	6,456.83	-1,494.13	-3,903.06	-1,033.22	4,007.81	0.00	0.00	0.00
10,300.00	90.00	181.06	6,456.83	-1,494.13	-4,003.05	-1,035.07	4,107.10	0.00	0.00	0.00
10,400.00	90.00	181.06	6,456.83	-1,494.13	-4,103.03	-1,036.91	4,206.39	0.00	0.00	0.00
10,500.00	90.00	181.06	6,456.83	-1,494.13	-4,203.01	-1,038.76	4,305.69	0.00	0.00	0.00
10,600.00	90.00	181.06	6,456.83	-1,494.13	-4,303.00	-1,040.60	4,404.98	0.00	0.00	0.00
10,700.00	90.00	181.06	6,456.83	-1,494.13	-4,402.98	-1,042.45	4,504.27	0.00	0.00	0.00
10,800.00	90.00	181.06	6,456.83	-1,494.13	-4,502.96	-1,044.30	4,603.57	0.00	0.00	0.00
10,900.00	90.00	181.06	6,456.83	-1,494.13	-4,602.94	-1,046.14	4,702.86	0.00	0.00	0.00
11,000.00	90.00	181.06	6,456.83	-1,494.13	-4,702.93	-1,047.99	4,802.15	0.00	0.00	0.00
11,100.00	90.00	181.06	6,456.83	-1,494.13	-4,802.91	-1,049.83	4,901.45	0.00	0.00	0.00
11,200.00	90.00	181.06	6,456.83	-1,494.13	-4,902.89	-1,051.68	5,000.74	0.00	0.00	0.00
11,300.00	90.00	181.06	6,456.83	-1,494.13	-5,002.88	-1,053.53	5,100.03	0.00	0.00	0.00
11,400.00	90.00	181.06	6,456.83	-1,494.13	-5,102.86	-1,055.37	5,199.33	0.00	0.00	0.00
11,500.00	90.00	181.06	6,456.82	-1,494.12	-5,202.84	-1,057.22	5,298.62	0.00	0.00	0.00
11,600.00	90.00	181.06	6,456.82	-1,494.12	-5,302.82	-1,059.06	5,397.91	0.00	0.00	0.00
11,700.00	90.00	181.06	6,456.82	-1,494.12	-5,402.81	-1,060.91	5,497.21	0.00	0.00	0.00
11,800.00	90.00	181.06	6,456.82	-1,494.12	-5,502.79	-1,062.75	5,596.50	0.00	0.00	0.00
11,900.00	90.00	181.06	6,456.81	-1,494.11	-5,602.77	-1,064.60	5,695.79	0.00	0.00	0.00
12,000.00	90.00	181.06	6,456.81	-1,494.11	-5,702.76	-1,066.44	5,795.09	0.00	0.00	0.00
12,100.00	90.00	181.06	6,456.81	-1,494.11	-5,802.74	-1,068.29	5,894.38	0.00	0.00	0.00
12,200.00	90.00	181.06	6,456.81	-1,494.11	-5,902.72	-1,070.13	5,993.67	0.00	0.00	0.00
12,300.00	90.00	181.06	6,456.80	-1,494.10	-6,002.71	-1,071.98	6,092.96	0.00	0.00	0.00
12,400.00	90.00	181.06	6,456.80	-1,494.10	-6,102.69	-1,073.82	6,192.26	0.00	0.00	0.00
12,500.00	90.00	181.06	6,456.80	-1,494.10	-6,202.67	-1,075.67	6,291.55	0.00	0.00	0.00
12,600.00	90.00	181.06	6,456.79	-1,494.09	-6,302.65	-1,077.51	6,390.84	0.00	0.00	0.00
12,700.00	90.00	181.06	6,456.79	-1,494.09	-6,402.64	-1,079.36	6,490.14	0.00	0.00	0.00
12,800.00	90.00	181.06	6,456.78	-1,494.08	-6,502.62	-1,081.20	6,589.43	0.00	0.00	0.00
12,900.00	90.00	181.06	6,456.78	-1,494.08	-6,602.60	-1,083.05	6,688.72	0.00	0.00	0.00
13,000.00	90.00	181.06	6,456.77	-1,494.07	-6,702.59	-1,084.89	6,788.02	0.00	0.00	0.00

Planning Report



Database:	EDM 5000.1 Single User Db	Local Co-ordinate Reference:	Well HUNT 8-60 17B-20-1
Company:	BISON OIL & GAS II, LLC	TVD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Project:	WELD COUNTY, COLORADO (NAD 83)	MD Reference:	KB-EST @ 4962.70usft (Original Well Elev)
Site:	SW NE SEC. 17 T8N R60W 6th P.M.	North Reference:	True
Well:	HUNT 8-60 17B-20-1	Survey Calculation Method:	Minimum Curvature
Wellbore:	ORIGINAL WELLBORE		
Design:	PROPOSAL #2		

Planned Survey										
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	SS (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
13,100.00	90.00	181.06	6,456.77	-1,494.07	-6,802.57	-1,086.73	6,887.31	0.00	0.00	0.00
13,200.00	90.00	181.06	6,456.76	-1,494.06	-6,902.55	-1,088.58	6,986.60	0.00	0.00	0.00
13,300.00	90.00	181.06	6,456.76	-1,494.06	-7,002.54	-1,090.42	7,085.90	0.00	0.00	0.00
13,400.00	90.00	181.06	6,456.75	-1,494.05	-7,102.52	-1,092.27	7,185.19	0.00	0.00	0.00
13,500.00	90.00	181.06	6,456.75	-1,494.05	-7,202.50	-1,094.11	7,284.48	0.00	0.00	0.00
13,600.00	90.00	181.06	6,456.74	-1,494.04	-7,302.48	-1,095.95	7,383.77	0.00	0.00	0.00
13,700.00	90.00	181.06	6,456.73	-1,494.03	-7,402.47	-1,097.80	7,483.07	0.00	0.00	0.00
13,800.00	90.00	181.06	6,456.73	-1,494.03	-7,502.45	-1,099.64	7,582.36	0.00	0.00	0.00
13,900.00	90.00	181.06	6,456.72	-1,494.02	-7,602.43	-1,101.48	7,681.65	0.00	0.00	0.00
14,000.00	90.00	181.06	6,456.72	-1,494.02	-7,702.42	-1,103.33	7,780.95	0.00	0.00	0.00
14,100.00	90.00	181.06	6,456.71	-1,494.01	-7,802.40	-1,105.17	7,880.24	0.00	0.00	0.00
14,200.00	90.00	181.06	6,456.70	-1,494.00	-7,902.38	-1,107.01	7,979.53	0.00	0.00	0.00
EPI: 300ft FSL & 1849ft FWL of Sec 20										
14,216.60	90.00	181.06	6,456.70	-1,494.00	-7,918.98	-1,107.32	7,996.01	0.00	0.00	0.00
EOT TO 180.95° AZ										
14,220.04	90.00	180.95	6,456.70	-1,494.00	-7,922.42	-1,107.38	7,999.43	3.00	-0.12	-3.00
14,300.00	90.00	180.95	6,456.70	-1,494.00	-8,002.37	-1,108.71	8,078.81	0.00	0.00	0.00
BHL: 200ft FSL & 1849ft FWL of Sec 20										
14,316.80	90.00	180.95	6,456.70	-1,494.00	-8,019.16	-1,108.99	8,095.48	0.00	0.00	0.00

Formations						
MD (usft)	TVD (usft)	Name	Lithology	Dip (°)	Dip Direction (°)	
513.32	512.70	PIERRE SHALE (BASE FOX HILLS				
3,574.71	3,509.70	PARKMAN				
4,111.44	4,034.70	SUSSEX				
5,229.19	5,132.70	SHANNON				
6,270.59	6,161.70	SHARON SPRINGS SHALE				
6,354.33	6,231.70	NIOBRARA FORMATION				
6,367.03	6,241.70	NIOBRARA A CHALK				
6,527.99	6,351.70	NIOBRARA B CHALK				
6,679.09	6,421.70	NIOBRARA C CHALK				

Plan Annotations				
MD (usft)	TVD (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
0.00	0.00	0.00	0.00	SHL: 2363ft FNL & 2475ft FEL of Sec 17
200.00	200.00	0.00	0.00	START NUDGE (2°/100ft BUR)
800.00	795.62	-0.72	-62.60	EOB TO 12° INC
4,821.61	4,729.35	-10.41	-898.68	END OF TANGENT
5,421.61	5,324.97	-11.13	-961.28	EOD TO VERTICAL
5,980.34	5,883.70	-11.13	-961.28	KOP (10°/100ft BUR)
6,880.36	6,456.70	-583.99	-971.88	BPI: 2343ft FSL & 1849ft FWL of Sec 17
14,216.60	6,456.70	-7,918.98	-1,107.32	EPI: 300ft FSL & 1849ft FWL of Sec 20
14,220.04	6,456.70	-7,922.42	-1,107.38	EOT TO 180.95° AZ
14,316.80	6,456.70	-8,019.16	-1,108.99	BHL: 200ft FSL & 1849ft FWL of Sec 20